

Appendix A
Agency Correspondence

DRAFT AND FINAL EA DISTRIBUTION LIST

Mr. Dan Malanchuk
El Paso Regulatory Office Chief
U.S. Army Corps of Engineers
El Paso Regulatory Field Office
Building 6380 Morgan Road
Fort Bliss, TX 79906

Dr. Joy E. Nicholopoulos
Field Supervisor
U.S. Fish and Wildlife Service
Ecological Services Field Office
2105 Osuna Road, Northeast
Albuquerque, NM 87113

Mr. Rob Lawrence
Director
Office of Planning and Coordination
U.S. Environmental Protection Agency
Region 6 (6EN-XP)
1445 Ross Avenue
Dallas, TX 75202-2733

Mr. Garth Grizzle
District Conservationist
Natural Resource Conservation Service
3105 West Main Street
Artesia, NM 88210-3105

Mr. Tod Stevenson
Division Chief
New Mexico Department of Game and Fish
Conservation Services Division
1 Wildlife Way
Santa Fe, NM 87507

Mr. Robert Sivinski
Botanist
Forestry Division
Energy, Minerals, and
Natural Resources Department
1220 South Forestry Drive
Room 112
Santa Fe, NM 87505

Ms. Jan Biella
Deputy State Historic Preservation Officer
New Mexico State Historic
Preservation Bureau
228 East Palace Avenue, Room 320
Santa Fe, NM 87501

Mr. Stephen Massey
Eddy County Manager
Eddy County
101 West Greene Street, Suite 225
Carlsbad, NM 88220

Ms. DeAnne Connelly
City Planner
City of Artesia
511 West Texas Street
Artesia, NM 88210

September 20, 2001

Recipient/Address

Dear Recipient:

The Department of the Treasury's Federal Law Enforcement Center (FLETC) is preparing an environmental assessment (EA) for a proposed land acquisition for its Special Training Complex at its facility in Artesia, Eddy County, New Mexico. The U.S. Army Corps of Engineers, Albuquerque District, has engaged Science Applications International Corporation (SAIC), to assist in the preparation of the EA. The environmental analysis is being conducted in accordance with the Council on Environmental Quality guidelines pursuant to the National Environmental Policy Act of 1969. The proposal includes exchange of land between the State of New Mexico (State Land Office) and the Bureau of Land Management (BLM), who are cooperating agencies in this process.

In accordance with Executive Order 12372, Intergovernmental Review of Federal Programs, we request your participation by reviewing a brief description of the proposal (provided in Attachment 1) and providing input on issues that should be addressed in the assessment. Maps in Attachment 2 show the location and ownership status of the subject lands. A list of federal, state, and local agencies that have been contacted is also attached (Attachment 3). Your input is needed by October 22, 2001, and will be used to focus analysis on relevant issues. If there are any additional agencies that you feel should review and comment on the proposal, please feel free to include them in your distribution of this letter and attached material. It is anticipated that the Draft EA will be prepared and distributed for review in mid-December, 2001.

Any questions concerning the proposal and comments can be directed to me at (505) 842-7932. Please forward your written comments to me at: 2109 Air Park Road, SE, Albuquerque, New Mexico 87106, or by email to susan.m.goodan@saic.com. Thank you for your assistance.

Sincerely,
Science Applications International Corporation

Susan Goodan
SAIC Project Manager

Attachments:

1. Project Description
2. Location map
3. Distribution list

ATTACHMENT 1

Project Description

The Department of the Treasury's Federal Law Enforcement Center (FLETC) currently provides law enforcement training programs at its Special Training Complex in Artesia, New Mexico. The complex is used to provide firearms and driver training to law enforcement personnel. The complex is located north of the Artesia Municipal Airport. The Department of the Treasury owns 1,040 acres of this land. An additional 240 acres of New Mexico state-owned land (in Section 33 and 34, see below) is leased to FLETC for use as an ammunition safety zone and 240 acres of Bureau of Land Management (BLM) land has a right-of-way (ROW) issued to FLETC. FLETC is in need of additional land for downrange safety fans for its firearms training ranges.

Under the proposal, the State of New Mexico is offering 440 acres (and the mineral estate) to the BLM in exchange for lands of equal value. BLM has selected 640 acres lands located about nine miles to the west and would exchange all or a portion of this land (of equivalent value) to the State. After the exchange, BLM would transfer 1,280 acres (and mineral estate) to FLETC, comprised of parcels that are wholly or partially within the current safety fan, increasing their land holding to 2,320 acres. Attachment 2 shows the current and ultimate status of the subject lands. The acres and associated legal descriptions of these lands are described below. No construction or change in use of any of the subject lands is currently proposed or planned.

State land	T.16S.R.25E,	S.27, E2SE (80 acres)	Exchange w/ BLM; BLM to transfer to FLETC
		S.28, E2NE (80 acres)	Exchange w/ BLM; BLM to transfer to FLETC
		S.28, NESE (40 acres)	Exchange w/ BLM; BLM to transfer to FLETC
		S.33, E2NE (80 acres)	Exchange w/ BLM; BLM to transfer to FLETC
		S.34, NW (160 acres)	Exchange w/ BLM; BLM to transfer to FLETC
BLM land	T.16S, R.25E,	S.27, N2 (320 acres)	BLM land transfer to FLETC
		S.27, SW (160 acres)	BLM land transfer to FLETC
		S.27, W2SE (80 acres)	BLM land transfer to FLETC
	T.16S, R.25E,	S.28, SESE (40 acres)	BLM land transfer to FLETC
	T.17S, R.24E,	S.2, (640 acres, portion)	BLM selected land exchanged to State
	T.17S, R.25E,	S.3, NW (160 acres)	ROW land to be transferred to FLETC
		S.3, N2N2S2 (80 acres)	ROW land to be transferred to FLETC
FLETC land	T.17S, R.25E,	S.3, W2NE	FLETC (Dept of Treasury) land
		S.4, NE (160 acres)	FLETC (Dept of Treasury) land
	T.16S, R.25E,	S.33, SE (160 acres)	FLETC (Dept of Treasury) land
		S.34, S2 (320 acres)	FLETC (Dept of Treasury) land
		S.34, NE (160 acres)	FLETC (Dept of Treasury) land
		S.35, S2S2 (160 acres)	FLETC (Dept of Treasury) land

ATTACHMENT 2

Figures 1 and 2 showing Location and Land Status of Subject Lands





LEGEND

Current Ownership of Subject Land

-  BLM
-  Department of Treasury
-  State

Ultimate Land Disposition

-  Exchange to BLM, BLM to Dept. of Treasury
-  Transfer to Dept. of Treasury

PLSS

-  Stream/Arroyo
-  20 Foot Contour Interval
-  Road

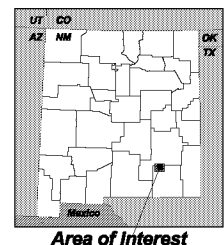
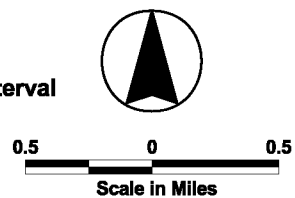
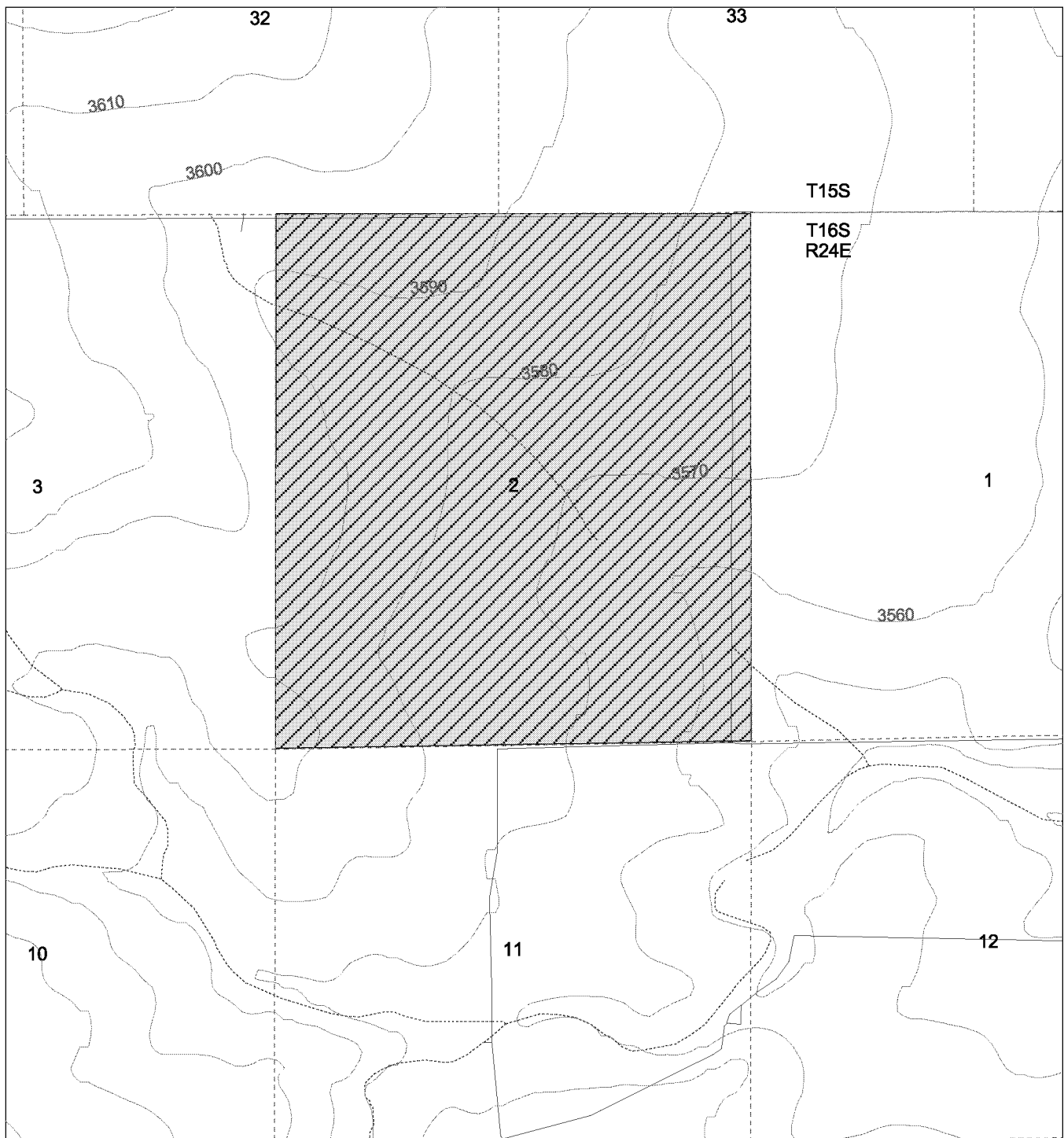


Figure 1: Location of Federal Law Enforcement and Proposed Acquisition Lands

SOURCE: COE, Albuquerque District



LEGEND

Ultimate Land Disposition

Exchanged to State (portions)

Current Ownership of Subject Land

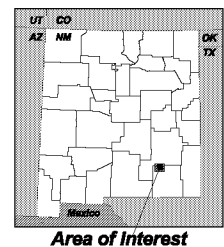
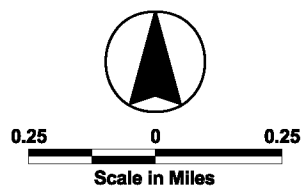
BLM

PLSS

Stream/Arroyo

10 Foot Contour Interval

Road



SOURCE: COE, Albuquerque District

**Figure 2: BLM Lands Selected
for Exchange to the State of New Mexico**

ATTACHMENT 3

Agency Distribution List

Mr. Dan Malanchuk
U.S. Army Corps of Engineers
Regulatory Field Office
P.O. Box 6096
Fort Bliss, TX 79906-0096

Dr. Joy E. Nicholopoulos
Field Supervisor
U.S. Fish and Wildlife Service
Ecological Services Field Office
2105 Osuna Road, Northeast
Albuquerque, NM 87113

Mr. Rob Lawrence
U.S. Environmental Protection Agency
Region 6 (6EN-XP)
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1445 Ross Avenue
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New Mexico Department of Game and Fish
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P.O. Box 25112
Santa Fe, NM 87504

Mr. Robert Sivinski
Botanist
Forestry Division
Energy, Minerals, and
Natural Resources Department
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Ms. Jan Biella
Deputy State Historic Preservation Officer
New Mexico State Historic Preservation
Bureau
228 East Palace Avenue, Room 320
Santa Fe, NM 87501

Mr. Stephen Massey
Eddy County Manager
101 West Greene Street, Suite 225
Carlsbad, NM 88220

Ms. DeAnne Connelly
City Planner
City of Artesia
511 West Texas Street
P.O. Box 1310
Artesia, NM 88211-1310

Memorandum



To: Distribution
From: Susan Goodan, SAIC
CC: Julie Hall, COE Albuquerque
Date: 10/03/01
Re: Information Correction-Federal Law Enforcement Training Center Land Transfer

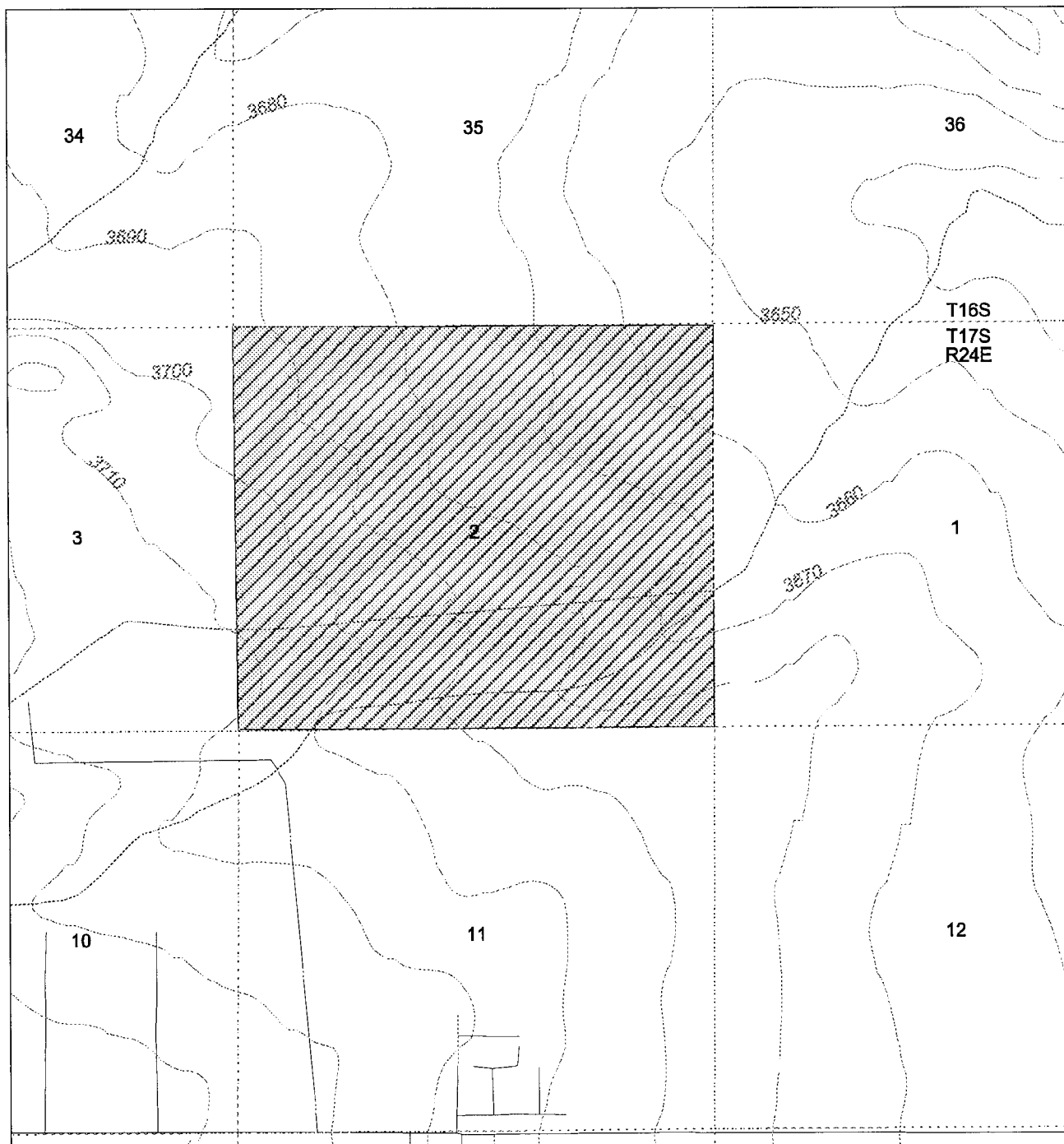
This memo clarifies and corrects information in a letter sent to you on September 20, 2001, concerning an Environmental Assessment for a proposed land transfer for the Federal Law Enforcement Training Center (FLETC) in Artesia, New Mexico.

Specifically, the written legal descriptions in the September 20 package were correct, but the location shown in Figure 2 was incorrect. The attached Figure 2 replaces the one previously provided. Also, the project description indicated that there would be no change in use or construction. In fact, grazing on 880 acres would not continue after the land transfer. Also, up to 7.5 miles of perimeter fencing would be installed around lands transferred to the FLETC and around FLETC land in Township 16 South, Range 25 East, Section 35.

Please consider these corrections in any input you may provide on this project. For agencies that have already responded, I will assume that these changes would not change your comments if I do not hear otherwise before October 26, 2001. You can call me at (505) 842-7932, or email to susan.m.goodan@saic.com. Thank you for your considerations.

Attachment (1)

CC: Dan Malanchuk, COE Fort Bliss
Joy Nicholopoulos, USFWS
Rob Lawrence, USEPA Region 6
Garth Grizzle, NRCS
Tod Stevenson, NMDGF
Robert Sivinski, NMEMNRD
Jan Biella, NM SHPO
Stephen Massey, Eddy County
DeAnne Connelly, City of Artesia



LEGEND

Ultimate Land Disposition

Exchanged to State (portions)

Current Ownership of Subject Land

BLM

PLSS

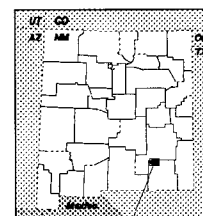
Stream/Arroyo

10 Foot Contour Interval

Road



0.25 0 0.25
Scale in Miles



Area of Interest

SOURCE: COE, Albuquerque District

**Revised Figure 2: BLM Lands Selected
for Exchange to the State of New Mexico**

Goodan, Susan M.

From: Sivinski, Robert [BSIVINSKI@state.nm.us]
Sent: Monday, September 24, 2001 4:06 PM
To: 'susan.m.goodan@saic.com'
Subject: FLETC

Susan:

The NM Forestry Division is not aware of any rare or endangered plant species on the proposed FLETC Special Training Complex or the BLM exchange land. If there are exposed gypsum strata on these sites, there may be potential habitat for the endangered *Eriogonum gypsophilum* (gypsum wild buckwheat) or *Amsonia tharpaii* (Tharp's bluestar), a federal species of concern.

Robert Sivinski
NM Forestry Division



United States Department of the Interior

FISH AND WILDLIFE SERVICE

New Mexico Ecological Services Field Office

2105 Osuna NE

Albuquerque, New Mexico 87113

Phone: (505) 346-2525 Fax: (505) 346-2542

September 28, 2001

Cons. # 2-22-01-I-696

Susan Goodan, SAIC Project Manager
Science Applications International Corporation
2109 Air Park Road S.E.
Albuquerque, New Mexico 87401

Dear Ms. Goodan:

This responds to your September 17 and 20, 2001, letters requesting information on threatened or endangered species or important wildlife habitats that could be affected by the proposed land acquisition for the Special Training Complex near Artesia, Eddy County, New Mexico.

We have enclosed a current list of federally-endangered, threatened, candidate species, and species of concern that may be found in the project areas. Additional information about these species is available on the Internet at <http://nmnhp.unm.edu/bisonm/bisonm.cfm>, <http://nmrareplants.unm.edu>, and <http://ifw2es.fws.gov/endangeredspecies>. Under the Endangered Species Act, as amended (Act), it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" any threatened, endangered, or proposed species, or critical habitat, and if necessary, to consult with us further. If your action area has suitable habitat for any of these species, we recommend that species-specific surveys be done during the appropriate flowering or breeding season to evaluate any possible project-related impacts.

Candidates and species of concern have no legal protection under the Act and are included in this document for planning purposes only. We are required to monitor the status of these species. If significant declines are detected, these species could potentially be listed as endangered or threatened. Therefore, actions that may contribute to their decline should be avoided. We recommend that candidates and species of concern be included in your surveys.

Under Executive Order 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands, and preserve and enhance their natural and beneficial values. We recommend you contact the U.S. Army Corps of Engineers for permitting requirements under Section 404 of the Clean Water Act if your proposed action could impact wetlands. These habitats should be conserved through avoidance, or mitigation should occur to ensure no net loss of wetlands functions and values.

Susan Goodan, SAIC Project Manager

2

The Migratory Bird Treaty Act (MBTA) prohibits the taking of migratory birds, nests, and eggs, except as permitted by the U.S. Fish and Wildlife Service. To minimize the likelihood of adverse impacts to all birds protected under the MBTA, we recommend construction activities occur outside the general migratory bird nesting season of March through August, or that areas proposed for construction during the nesting season be surveyed, and if necessary, avoided until nesting is complete.

Please keep in mind that the scope of federally-listed species compliance also includes any interrelated or interdependent project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations) and any indirect and cumulative effects.

If you have any questions regarding this information, please contact Santiago R. Gonzales at the letterhead address or at (505) 346-2525, ext. 136.

Sincerely,

A handwritten signature in black ink, reading "Joy E. Nicholopoulos". The signature is written in a cursive, flowing style.

Joy E. Nicholopoulos
Field Supervisor

Enclosure

cc: (w/o enc)

Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico

Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry
Division, Santa Fe, New Mexico

Threatened, Endangered, Candidate Species, and
Species of Concern in Eddy County, New Mexico
September 27, 2001

Eddy

Big free-tailed bat, Nyctinomops macrotis (= Tadarida m., T. molossa), SC
Black-footed ferret, Mustela nigripes, E**
Black-tailed prairie dog, Cynomys ludovicianus, C
Cave myotis, Myotis velifer, SC
Fringed myotis, Myotis thysanodes, SC
Gray-footed chipmunk, Tamias canipes, SC
Guadalupe southern pocket gopher, Thomomys umbrinus guadalupensis, SC
Occult little brown bat, Myotis lucifugus occultus, SC
Townsend's big-eared bat, Corynorhinus townsendii, SC
Western red bat, Lasiurus blossevillii, SC
Pecos River muskrat, Ondatra zibethicus ripensis, SC
Swift fox, Vulpes velox, SC
American peregrine falcon, Falco peregrinus anatum, SC
Arctic peregrine falcon, Falco peregrinus tundrius, SC
Baird's sparrow, Ammodramus bairdii, SC
Bald eagle, Haliaeetus leucocephalus, T
Black tern, Chlidonias niger, SC
Ferruginous hawk, Buteo regalis, SC
Interior least tern, Sterna antillarum, E
Loggerhead shrike, Lanius ludovicianus, SC
Mexican spotted owl, Strix occidentalis lucida, T
Northern aplomado falcon, Falco femoralis septentrionalis, E
Northern goshawk, Accipiter gentilis, SC
Western burrowing owl, Athene cunicularia hypugaea, SC
White-faced ibis, Plegadis chihi, SC
Lesser prairie chicken, Tympanuchus pallidicinctus, C
Yellow-billed cuckoo, Coccyzus americanus, SC
Blue sucker, Cycleptus elongatus, SC
Headwater catfish, Ictalurus lupus, SC
Pecos bluntnose shiner, Notropis simus pecosensis, T w/CH
Pecos gambusia, Gambusia nobilis, E
Pecos pupfish, Cyprinodon pecosensis, SC
Plains minnow, Hybognathus placitus*, SC
Rio Grande shiner, Notropis jemezianus, SC
Sand dune lizard, Sceloporus arenicolus, SC
Texas horned lizard, Phrynosoma cornutum, SC
limestone tiger beetle, Cicindela politula petrophila, SC
Mescalero Sands tiger beetle, Cicindela formosa rutilovirescens, SC
Mescalero Sands June beetle, Polyphylla mescalensis, SC
Ovate vertigo (snail), Vertigo ovata, SC
Pecos springsnail, Pyrgulopsis pecosensis, SC

Texas hornshell (mussel), Popenaias popei, SC
Few-flowered jewelflower, Streptanthus sparsiflorus, SC
Glass Mountain coral-root, Hexalectris nitida, SC
Guadalupe rabbitbrush, Chrysothamnus nauseosus var. texensis, SC
Gypsum wild-buckwheat, Eriogonum gypsophilum, T w/CH
Kuenzler hedgehog cactus, Echinocereus fendleri var. Kuenzleri, E
Lee pincushion cactus, Coryphantha sneedii var. leei, T
Mat leastdaisy, Chaetopappa hersheyi, SC
Tharp's blue-star, Amsonia tharpaii, SC
Wright's water-willow, Justicia wrightii, SC

Index

E	=	Endangered (in danger of extinction throughout all or a significant portion of its range).
PE	=	Proposed Endangered
PE w/CH	=	Proposed Endangered with critical habitat
T	=	Threatened (likely to become endangered within the foreseeable future throughout all or a significant portion of its range).
PT	=	Proposed Threatened
PT w/CH	=	Proposed Threatened with critical habitat
PCH	=	Proposed critical habitat
C	=	Candidate Species (taxa for which the Service has sufficient information to propose that they be added to list of endangered and threatened species, but the listing action has been precluded by other higher priority listing activities).
S/A	=	Similarity of Appearance
†	=	May occur in this county from re-introductions in Colorado
*	=	Introduced population
XN	=	Nonessential experimental
**	=	Survey should be conducted if project involves impacts to prairie dog towns or complexes of 200-acres or more for the Gunnison's prairie dog (<i>Cynomys gunnisoni</i>) and/or 80-acres or more for any subspecies of Black-tailed prairie dog (<i>Cynomys ludovicianus</i>). A complex consists of two or more neighboring prairie dog towns within 4.3 miles (7 kilometers) of each other.
***	=	Extirpated in this county



DEPARTMENT OF THE ARMY
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS
EL PASO REGULATORY OFFICE
P.O. BOX 6096
FORT BLISS, TEXAS 79906-0096
FAX (915) 568-1348

September 27, 2001

REPLY TO
ATTENTION OF:

Operations Division
Regulatory Branch

Susan Goodan
Science Applications International Corp.
2109 Air Park Road S.E.
Albuquerque, NM 87106

Dear Ms. Goodan:

This is in reference to your September 20, 2001 letter regarding the jurisdictional status of lands being acquired for the Treasury's Federal Law Enforcement Center (FLETC) near Artesia, Eddy County, New Mexico. (Action No. 2001 00643).

We have evaluated the information you have provided and studied the project description, other records, and documents available to us. It appears that waters of the United States are located within the project site, specifically in Section 35, Township 16 South, Range 25 East. However, since the proposed land acquisition does not involve the placement of dredged or fill material into these waters, it is not regulated under the provisions of Section 404 of the Clean Water Act and a Department of the Army permit will not be required.

This determination will be valid for 2 years from the date of this letter unless new information warrants revision of the determination within that time.

If you have any questions please feel free to write or call me at (915) 568-1359 or e-mail me at daniel.malanchuk@usace.army.mil.

Sincerely,

A handwritten signature in cursive script, reading "Daniel Malanchuk", is positioned above the typed name and title.

Daniel Malanchuk
Chief, El Paso Regulatory Office

Copy furnished:
CESPA-OD-R-EP

**UNITED STATES
DEPARTMENT of
AGRICULTURE**

**NATURAL RESOURCES
CONSERVATION
SERVICE**

**Artesia Field Office
3105 West Main
Artesia, NM. 88210
(505) 746-4121**

Sub: Dept. of the Treasury's Federal
Law Enforcement Center
Environmental Assessment

Date: 10/09/01

To: Susan Goodan
SAIC Project Manager

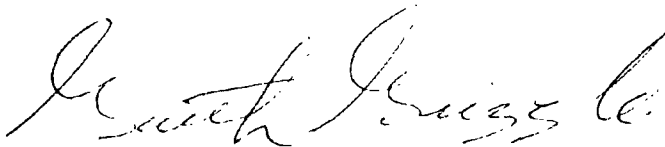
Enclosed please find the non-technical soil descriptions for the major soils found in the area proposed for the land acquisition by FLETC.

Your letter did not give many details as to what the long-term use of the land would be. At the present time the land use is rangeland. The wildlife value of the land is minimal. There is little potential for the area to be farmed. The soils would be suitable, but there are no water rights associated with the land.

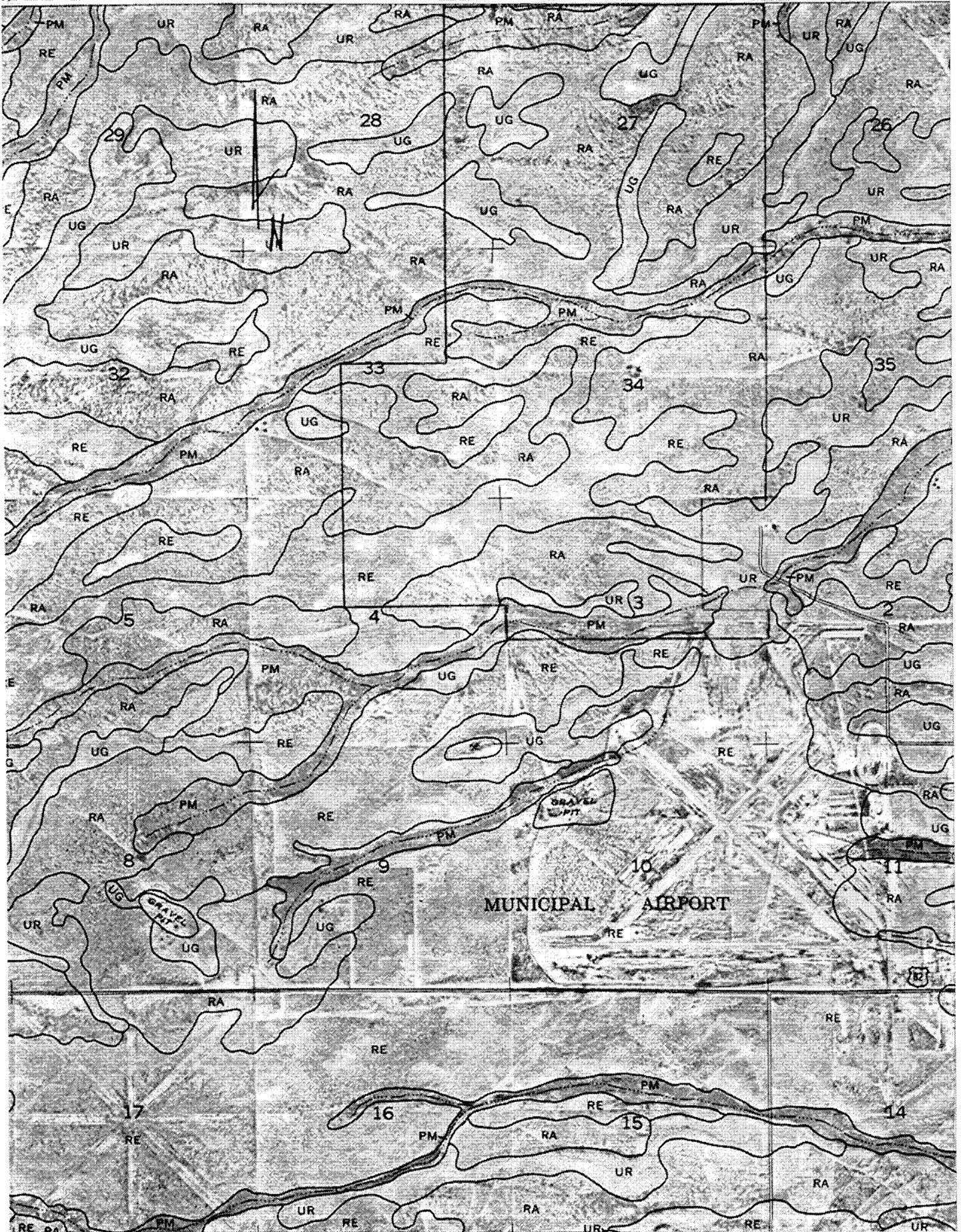
Soils in the area will present little problems for the construction of building etc.

The land acquisition should have little impact on the farming or ranching industry of the area.

If I can be of further assistance to you concerning this matter please let me know



Garth Grizzle
District Conservationist



Non-Technical Descriptions

Soil Survey Area: 614 EDDY AREA, NEW MEXICO

Map unit: RA Reagan loam, 0 to 3 percent slopes

Description Category: AGR

SOIL DEPTH - DEEP; SOIL DRAINAGE - WELL DRAINED; SURFACE LAYER - LOAM 8 INCHES THICK; SUBSOIL LOAM - 24 INCHES THICK; SUBSTRATUM - CLAY LOAM TO A DEPTH OF 60 INCHES; PERMEABILITY - MODERATELY SLOW; AWC - HIGH; EFFECTIVE ROOTING DEPTH - 60 INCHES OR MORE; WATER EROSION HAZARD - SLIGHT; SOIL BLOWING - MODERATE; CAPABILITY SUBCLASS 2e(IRR), 7c(NIRR); T-5; WEG-4L; I-86; LIMITATIONS - CALCIUM CARBONATE IN LOWER HORIZONS.

Map unit: RE Reagan-Upton association, 0 to 9 percent slopes

Description Category: AGR

REAGAN: SOIL DEPTH - DEEP; SOIL DRAINAGE - WELL DRAINED; SURFACE LAYER - LOAM 8 INCHES THICK; SUBSOIL - LOAM 24 INCHES THICK; SUBSTRATUM - CLAY LOAM TO A DEPTH OF 60 INCHES; PERMEABILITY - MODERATELY SLOW; AWC - HIGH; EFFECTIVE ROOTING DEPTH - 60 INCHES OR MORE; WATER EROSION HAZARD - SLIGHT; SOIL BLOWING HAZARD - MODERATE; CAPABILITY SUBCLASS 2e(IRR), 7c(NIRR); T-5; WEG-4L; I-86. UPTON: SOIL DEPTH - SHALLOW; SOIL DRAINAGE - WELL DRAINED; SURFACE LAYER - GRAVELLY LOAM 3 INCHES THICK; SUBSURFACE - GRAVELLY LOAM TO A DEPTH OF 9 INCHES; PERMEABILITY - MODERATE; AWC - VERY LOW; EFFECTIVE ROOTING DEPTH - LESS THAN 20 INCHES; WATER EROSION HAZARD - SLIGHT; SOIL BLOWING HAZARD - MODERATE; CAPABILITY SUBCLASS 7s(IRR), 7e(NIRR); T-1; WEG-5; I-56; LIMITATIONS - DEPTH TO INDURATED CALICHE LESS THAN 20 INCHES.

Non-Technical Descriptions

Soil Survey Area: 614 EDDY AREA, NEW MEXICO

Map unit: PM Pima silt loam, 0 to 1 percent slopes

Description Category: AGR

Pima silt loam, 0 to 1 percent slopes. Soil Depth- Deep; Soil drainage- Well drained;
Surface layer- silt loam 3 inches thick. Subsoil- silty clay loam 17 inches thick;
Substratum - silty clay loam to depth of 60 inches; Permeability is moderately slow;
AWC - High, Effective Rooting Depth - 60 inches or more; water erosion hazard -
moderate; Capability subclass Iis-1 (irr), VIs-4 (Nirr), T - 5; WEG - 4L; I - 86 The soil is
fertile; Limitations- subject to periodic flooding.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

OCT 22 2001

Susan Goodan
SAIC Project Manager
2109 Air Park Road, S.E.
Albuquerque, NM 87106

Subjects: Special Training Complex Land Exchange
Artesia, Eddy County, New Mexico

Dear Ms. Goodan:

Thank you for your letter, dated September 20, to the U.S. Environmental Protection Agency (EPA), Region 6, requesting comments and available information on the subject project. Your package was received by the Office of Planning and Coordination and I am pleased to provide the following in response to your request.

EPA understands SAIC has been retained by the U.S. Army Corps of Engineers to assist in the preparation of an Environmental Assessment (EA) evaluating the potential impacts of the proposed action. Our office receives from 30-50 letters each month requesting input to EAs. Limited resources and statutory regulations do not allow our office the opportunity to thoroughly evaluate each of these EA actions. Nevertheless, we are hopeful our input on environmental issues to be addressed will help minimize adverse effects, and in particular, help to reduce cumulative adverse impacts on the more sensitive resource areas.

Regarding construction, efforts should be taken to minimize "non-point sources" of pollution that may enter surface waters. These include water that runs off during rainstorms that may contain metals, oil, grease, and other equipment fluids, as well as the runoff from agricultural fields may contain animal waste, fertilizers, and pesticides. Reducing the potential for these contaminants to enter surface waters (e.g., through the implementation of best management practices to control erosion at construction sites), makes a substantial contribution to improving water quality. EPA's National Pollutant Discharge Elimination System (NPDES) storm water general permit may be applicable to projects with construction sites that affect a minimum of five acres. For additional information on this NPDES general permit, contact Taylor Sharpe, EPA Region 6 Storm Water Team, at (214) 665-7495.

Any activity that releases materials into the air affects air quality. Using the proper equipment and using it correctly with the appropriate pollution controls, including vehicles, reduces particulates into the air. The Clean Air Act restricts the use, emission and disposal of ozone-depleting chemicals such as chlorofluorocarbons (CFCs, also know as Freons) and other chlorine- and bromine-containing compounds. CFCs are commonly used in refrigerators and air conditioners. For additional information, contact Jole Leuhrs, Chief of the Air Permits Section, at (214) 665-7250.

p. 2

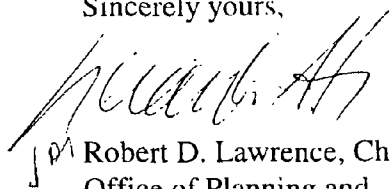
Clean up of the construction site and proper waste disposal are also important. Today, landfill space is at a premium. Solid waste disposal options include not only recycling, but also incineration, source reduction, and biodegradation. Both hazardous and solid waste regulations prohibit disposal of hazardous waste in a landfill that is not specifically designed and permitted. Also, the volume of waste accepted is set in the terms of the landfill permit, usually as tons per month. Each of us is part of the problem as well as the solution, which is proper disposal. From gum wrappers to used cars, we exert our personal choices in what we purchase, how we use the product, and how we dispose of the waste. Although some people and companies illegally put hazardous waste in landfills, heavy penalties including fines and jail sentences make illegal disposal very unattractive. For additional information, contact Willie Kelley, Chief of the Solid Waste Section at (214) 665-6761.

The EPA and the U.S. Department of Energy (DOE) have a number of programs that offer assistance to the public, commercial, industrial and government sectors to create a better environment. Examples of these programs are: 1) Energy Star Buildings - how to construct a building with lower electrical consumption and how to retrofit a building; 2) Energy Star Homes - energy efficient homes that reduce electrical consumption by as much as half, at a cost of less than two percent on new construction homes; and 3) a DOE program to upgrade energy efficient residential building codes and standards. Enclosed are some related informational pamphlets and for questions on the EPA/DOE Energy Star program, contact Patrick Kelly at (214) 665-7316.

In addition to the above issues, to assist SAIC in conducting a thorough and objective evaluation of the environmental impacts (e.g., siting, permitting, and socioeconomics) of the subject proposals, a copy of EPA's Environmental Information Document (EID) Guidance Handbook is also enclosed.

Additional EPA publications are available at www.epa.gov/earth1r6/6en/xp/enxp4c.htm. I hope you find this information is helpful. If you have any questions, feel free to contact me at (214) 665-8150 or Joe Swick, of my staff, at (214) 665-7456.

Sincerely yours,



Robert D. Lawrence, Chief
Office of Planning and
Coordination (6EN-XP)

Enclosures



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna NE
Albuquerque, New Mexico 87113
Phone: (505) 346-2525 Fax: (505) 346-2542

March 5, 2002

Cons.# 2-22-01-I-696a

Ms. Susan Goodan
Science Applications International Corporation
2109 Air Park Road, SE
Albuquerque, New Mexico 87106

Dear Ms. Goodan:

This responds to your February 19, 2002, memorandum requesting review and comment on the draft Environmental Assessment (EA) for the Federal Law Enforcement Training Center (FLETC) Land Transfer, near the City of Artesia, Eddy County, New Mexico. The proposed action consists of the transfer of 1,280 acres of public and acquired State lands to FLETC for expansion of their training operations northwest of Artesia. These operations include long range firearms training. The Bureau of Land Management is also proposing to transfer 640 acres of public lands to the State. These lands may then be subject to mineral leasing and/or grazing under the management of the State of New Mexico. We have evaluated the draft EA with respect to important fish and wildlife resources, including federally-listed species. In addition, the draft document was evaluated for consistency with other Federal resource mandates.

GENERAL COMMENTS

Generally, the draft EA is well written, however it is deficient in assessments of potential impacts to important fish and wildlife resources, particularly the potential for listed species to occur within the action area or on lands to be transferred to the State and FLETC by the Bureau of Land Management. For your consideration, we offer the following comments, additions, and/or clarifications to address these deficiencies.

SPECIFIC COMMENTS

Page 2-2, Section 2.1.3, Physical Improvements

This section indicates up to 7.5 miles of fencing will be installed for the proposed action. The EA did not specify at what time of year this would occur but it may involve vegetation disturbance. To avoid potential impacts to nesting birds protected under the Migratory Bird Treaty Act, we recommend the fencing project occur outside the general migratory bird nesting season that extends from March through August OR that proposed disturbance areas

be surveyed for nesting birds and if necessary, working on other project segments until nesting is complete. In addition, according to the EA, the project area is considered potential habitat for the endangered northern aplomado falcon (*Falco femoralis septentrionalis*) and the proposed threatened mountain plover (*Charadrius montanus*). Construction of the fence outside the general migratory bird nesting season should avoid potential direct impacts to northern aplomado falcons or mountain plovers, should they be nesting within or near the impact area(s). Surveys for nesting mountain plovers may be conducted from May 1 through June 15.

Page 3-7, Section 3.5.2, Existing Conditions

This section indicates that biological surveys were conducted for the project area(s) in October 2001, in part, to document the “occurrence of sensitive species.” Please note that surveys for sensitive species should be conducted during the appropriate breeding or flowering season. Usually, this would be in the spring or summer. Surveys for sensitive species conducted outside of the appropriate season or estimating species occurrence from studies conducted elsewhere are usually not adequate in documenting actual species occurrence within the project area. In addition, the qualifications or experience of the surveyors is unknown nor are there any descriptions of the weather conditions encountered during these surveys. Therefore, the biological assessment appears insufficient to adequately determine sensitive species’ presence at all sites involved in the proposed land transfer to the State and FLETC.

Page 3-17, Section 3.5.2.5, Sensitive Species, lines 1-13

This section, and other parts of the EA, state that potential habitat exists for the northern aplomado falcon and on page 3-9, “breeding bird studies have not been conducted in the project area.” We suggest efforts to avoid impacts to yuccas during fencing construction with respect to the aplomado falcon. However, based on the information contained in the EA, if habitat within the action area(s) may support breeding or use by the aplomado falcon, then we recommend surveys by a qualified and permitted biologist according to the Service’s Interim Aplomado Falcon Survey Methodology (enclosed).

Page 3-20, Section 3.8.2, Existing Conditions

The sixth paragraph, lines 40-41 state that there are no signs of animal mortalities in the project area from lead ingestion [by resident wildlife]. Page 4-5, Section 4.5.2.1, lines 6-7 also states that “there has been no evidence of animal mortalities due to lead at FLETC” and “increased training is not expected to cause impacts to wildlife.” These statements are unsupported by any accompanying data and specific descriptions of training activities (such as the use of lead shotgun pellets) at FLETC. Furthermore, the EA does not identify whether there are active efforts by qualified biologists to specifically research this issue or if these statements are based on anecdotal accounts. These statements should be supported or measures included during the planning process to address this potential concern.

Page 4-2, Section 4.3, Water Resources

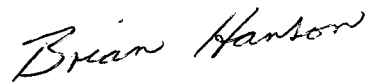
Other potential impacts to these resources may include development in floodplains. Please keep in mind that all Federal agencies are required to comply with Executive Order 11988, regarding national policy on floodplain management. This mandate requires each Federal agency to avoid long and short term impacts to the floodplain and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.

SUMMARY COMMENTS

In summary, the above specific comments should be addressed in greater detail in support of the "finding of no significant impact" with respect to important fish and wildlife resources. With respect to federally-listed species (aplmado falcon), further consultation under the Endangered Species Act may be required for this project.

We appreciate the opportunity to provide comments on the draft EA. If you have any questions or if an onsite visit is appropriate, please contact Chris Perez of my staff at 505-346-2525, ext. 145. Please reference consultation number 2-22-01-I-696a.

Sincerely,



for Joy E. Nicholopoulos
Field Supervisor

Enclosure

cc: (w/o enc)

Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico

Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry

Division, Santa Fe, New Mexico

Field Biologist, Bureau of Land Management, Carlsbad, New Mexico (Attn: John Sherman)



**INTERIM
SURVEY METHODOLOGY FOR THE
NORTHERN APLOMADO FALCON
(*Falco femoralis septentrionalis*)
IN
DESERT GRASSLANDS**



**U. S. Fish and Wildlife Service
New Mexico Ecological Services Office
2105 Osuna Road NE
Albuquerque, NM 87113
(505) 346-2525**

April 2, 1999

INTERIM
SURVEY METHODOLOGY FOR THE
NORTHERN APLOMADO FALCON
(Falco femoralis septentrionalis)
IN
DESERT GRASSLANDS

U.S. Fish and Wildlife Service
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April 2, 1999

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INTERIM
SURVEY METHODOLOGY FOR THE NORTHERN APLOMADO FALCON
(*Falco femoralis septentrionalis*)
IN DESERT GRASSLANDS

INTRODUCTION

This interim protocol is intended to promote consistent and reliable surveys for evaluation by the U.S. Fish and Wildlife Service (Service) for proposed Federal actions or activities potentially affecting the aplomado falcon. The methods presented here are geared toward aplomados and their habitat in desert grasslands; however, they may generally apply in surveys conducted in other suitable habitats. Secondarily, this methodology is designed to take a proactive approach in gathering baseline information on avian trends and habitat specifics in order to identify factors limiting the falcon's recovery as well as to provide conservation solutions for land management agencies. Heightened interest in the species follows from post-1991 confirmed observations of individual aplomado falcons in the United States and the recent discovery of two aplomado falcon populations in northern Chihuahua, Mexico (Montoya *et al.* 1997).

The Endangered Species Act of 1973, as amended, (Act) requires Federal agencies to ensure that any action they fund, authorize, or carry out is not likely to jeopardize the continued existence of a threatened or endangered species. Regulations implementing Section 7 of the Act require that Federal agencies (or their non-Federal designees) determine if any action they propose "may affect" any threatened or endangered species. If it is determined that a proposed action "may affect" an endangered or threatened species, then the agency is required to request formal Section 7 consultation with the Service. Section 7 also directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out programs for the conservation of endangered and threatened species. We anticipate that presence/absence surveys, along with baseline and habitat trend data on a system-wide basis would help address aplomado conservation or management needs for large-scale Federal programs or activities affecting grassland habitats. This methodology can also be used for other Act requirements such as in the development of Habitat Conservation Plans under Section 10(a)(1)(B).

In response to agency/applicant requests for guidance in "may affect" determinations, this methodology, if fully implemented, should bring the resource professional having little or no experience with aplomado falcons to a level of expertise required for the adequate consideration of this federally-listed species under Section 7. Surveys are often an essential part of these compliance determinations, particularly where site specific information upon which to evaluate the effects of a given action on listed species is lacking. This document is a guide and compliance with or disregard for this methodology does not, of itself, show compliance with or violation of the Act or other regulations. The

Interim Survey Methodology - Northern Aplomado Falcon (4/02/99)

methodology may be revised as knowledge of the species and its habitat increases, and as more efficient survey techniques come to light.

The northern aplomado falcon was listed as an endangered species by the Service in March, 1986. The falcon's extirpation as a breeding bird from the U.S. and evidence of population declines and high levels of pesticide contamination in the eastern Mexico population (Kiff *et al.* 1978) were the primary justifications for its endangered status (USFWS 1986). Hector (1981, 1987) gives a thorough account of historical aplomado falcon occurrence in the U.S. from his investigations of museum collections and available literature. He noted that the aplomado falcon was a regular breeding species in the desert and coastal grassland communities of southern and western Texas, and desert grassland communities of southern New Mexico and southeastern Arizona until the early 1930s. Hector (1983, 1987) also reported that the highest aplomado nesting densities within the U.S. historically occurred in south-central New Mexico and southern Texas. Aplomado falcon populations in the U.S. declined dramatically during the 1930s and 1940s, possibly due to a combination of collecting pressure (Hector 1983, 1987) and adverse habitat modification (Ligon 1961; Hector 1981, 1987; Henry and Cathey 1995). Bayne (cited in Ligon 1961) documented the last nesting pair of aplomados in the U.S. in May 1952 near Deming, Luna County, New Mexico.

Within New Mexico, aplomado falcons were historically reported from Doña Ana, Eddy, Grant, Hidalgo, Lea, Luna, Otero, and Sierra counties. According to Henry and Cathey (1995), patches of suitable aplomado falcon habitat appear to remain in southern New Mexico. Yet, combinations of heavy grazing (Hector 1981), the encroachment of mesquite (*Prosopis glandulosa*), (Humphrey 1958; Buffington and Herbel 1965; Hector 1987; Henry and Cathey 1995), and proliferation of "weed" species such as snakeweed (*Gutierrezia* spp.) (Montoya, pers. obs.) may currently affect the habitat suitability of the aplomado in many areas of its former desert grassland range.

The Arizona Game and Fish Department (AGFD) (Ward and Ingraldi 1994) initiated grassland raptor/aplomado falcon surveys as a means of long-term monitoring of raptors, ravens, and loggerhead shrikes (*Lanius ludovicianus*) in the grassland communities of southeastern Arizona. The detection of any aplomado falcons occurring in Arizona and monitoring of specific areas with the potential for aplomado falcon reintroduction was of primary interest. Ward (AGFD, pers. comm. 1994) also reported that AGFD is investigating unconfirmed aplomado falcon reports from northern Sonora, Mexico.

Observations of aplomado falcons during the past decade have been reported sporadically throughout its historic U.S. range (J. Lewis, USFWS, pers. comm. 1991) where such reports were generally discounted due to lack of documentation. Whether a remnant population is present in New Mexico or falcons are immigrating from northern Mexico is open to speculation. However, the recent documentation of breeding aplomado falcons in northern Chihuahua, Mexico, confirms that this species persists in the Chihuahuan desert grasslands about 25 miles from the U.S. border (Montoya *et al.* 1997). Such a recent "discovery" of these populations also points out how easily this species can be overlooked in the vast expanses of the southwestern deserts, particularly with the added complications of international borders and land ownership.

Nonetheless, for the period of 1987-1998 within New Mexico, there have been a total of 18 reports of up to 25 birds resulting in 4 verifications and 3 published photos in 1991, 1992, and 1996 (Williams 1998). In addition, there is one account from near Marfa, Texas, in 1992 (Lasley and Sexton 1992) and another reliable account in 1996 near Van Horn, Texas.

NATURAL HISTORY

Identification

Aplomado falcons are long-tailed neotropical falcons intermediate in size between the American kestrel (*Falco sparverius*) and prairie falcon (*F. mexicanus*) (Hector 1983). The female aplomado being larger than the male, both sexes combined measure about 30-40 cm in length, have a wingspan of about 80-90 cm., and weigh about 250-500 grams (Hector 1988). In the U.S., aplomados may occur sympatrically throughout the year with the American peregrine falcon (*F. peregrinus anatum*), prairie falcon, American kestrel, and with merlin (*F. columbarius*) and Arctic peregrine falcon (*F. p. tundrius*) outside the breeding season. This emphasizes the need for careful observation to avoid confusion of suspected aplomado falcons with other more common falcons.

Adult aplomados can be distinguished from other North American falcons by their long tail and a distinct broad dark or black "cummerbund" on the lower breast, which at close range may show faint white barring (Figure 1-a). The tail is also crossed with several thin white bars. The upper breast is bleach white to creamy with variable amounts of black streaking, depending on the sex. The lower abdomen and undertail coverts are rufous. When viewed frontally at a distance, the falcon imparts a distinctive "tri-colored" (white-black-rufous) appearance. The back and dorsal wing surfaces are blue-gray or lead-colored (hence, the name *aplomado*). Facial markings are striking with a blackish cap and nape contrasted by a bold white supraorbital (facial) stripe that forms a "V" towards the nape; at close proximity, the stripes are white towards the face and become more rufous toward the nape. Immature aplomados are more brownish on the back and upperwing surfaces and the breast and facial stripes are cinnamon colored, with heavy streaking on the breast (Figure 1-c). Both adults and immature falcons have distinctive white trailing edges on the wings (Figure 1-b).

Flight profiles of both adult and immature aplomados are similar to other falcons, except for the longer tail. Flight is generally low and direct, though they will occasionally soar. Aplomado falcons pursue prey in a variety of fashions. They have been observed to pursue prey in direct linear flight (similar to a merlin), tower above prey and stoop (similar to peregrine falcons), and to "hawk" insects from a perch. Aplomados have been observed to pursue prey on the ground and pairs often hunt cooperatively (Hector 1986a; Montoya, pers. obs.). In addition, juvenile falcons released in South Texas have been noted to hunt cooperatively in groups (Perez, pers. obs.). Aplomados will occasionally follow coyotes and humans, to capture flushed prey (Montoya, pers. obs.). Aplomados have also been known to steal prey caught by other raptors (kleptoparasitism) and hunt alongside grassfires (Perez, pers. obs.). Aplomados released in South Texas are fitted with permanent black (female) or silver (male) anodized aluminum bands while the aplomados captured in Chihuahua, Mexico, were equipped with colored plastic leg bands



(a) adult northern aplomado falcon
Chihuahua, Mexico.



(b) adult northern aplomado falcon
showing white trailing edge on
wing, Chihuahua, Mexico.



(c) immature northern aplomado falcon,
Laguna Atascosa NWR, Texas.



(d) northern aplomado falcon nest
site, Chihuahua, Mexico.

Figure 1. Photographs of adult (a) and (b), Chihuahua, Mexico, and immature (c) aplomado falcons, Laguna Atascosa NWR, showing plumage characteristics and an example of a nest site (d), Chihuahua, Mexico.

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and tail-mounted radio transmitters (Montoya *et al.* 1997). All transmitters and the bands used in Chihuahua were considered temporary and the anodization used on the bands in South Texas may fade with time.

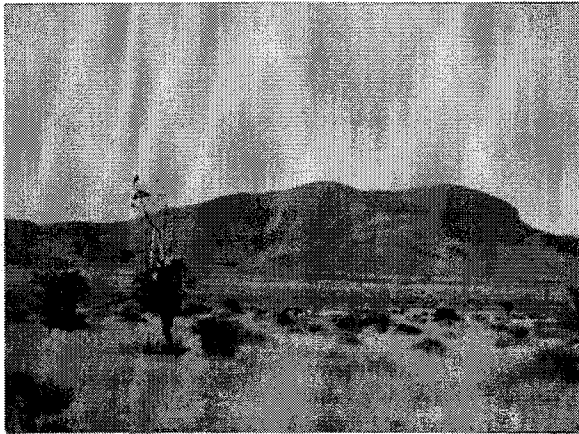
Habitat and Home Range

Aplomado falcons have been documented from a variety of open woodland, savanna, and grassland habitats (Hector 1981, USFWS 1990). Within the Chihuahuan desert, aplomados typically occur in open grassland areas with scattered mesquite and/or soap tree yucca (*Yucca elata*) or Torrey yucca (*Y. torreyi*) (Ligon 1961, Montoya *et al.* 1997) (Figure 2). Montoya *et al.* (1997) found that woody vegetation densities in aplomado home ranges in Chihuahua, Mexico, varied from 11.2 to 139.5 plants/hectare (ha) with no significant difference between nesting and non-nesting territories. Ground cover ranged from 28.9% to 69.5% on aplomado territories and also did not differ significantly between nesting and non-nesting territories (means equalled 49.9% versus 37.8%, respectively). Montoya *et al.* (1997) used the minimum convex polygon method to determine home range sizes for individual aplomados during the breeding season. Home range estimates for individual falcons monitored more than 100 days (n=6) ranged from 3.3 to 21.4 km².

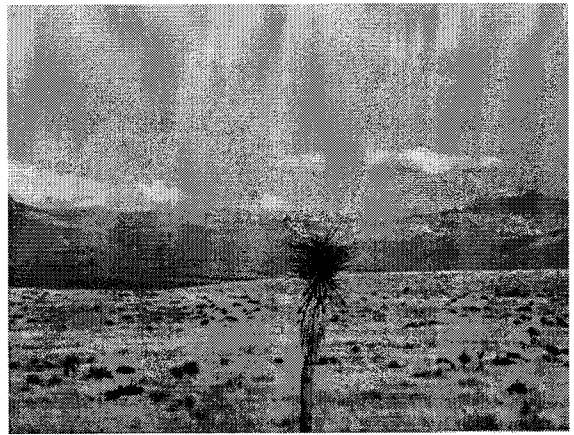
Although the range of juvenile dispersal is not well established for the aplomado, a 1993-94 study of 28 radio-tagged aplomados released in South Texas revealed that from 2-6 months post-release, the movements of 14 monitored falcons did not permanently extend beyond 10 km from the 18,268 ha Laguna Atascosa National Wildlife Refuge boundary (Perez *et al.* 1996). At least 6 aplomado falcons with functioning transmitters were still in the general vicinity of the Refuge 6 months post-release; however, dispersals have been recorded for released falcons. One male falcon dispersed 136 km north of the release area at an age of 70 days (Perez *et al.* 1996), and another male dispersed 22 km south of the refuge near Brownsville, Texas, in 1989 (Peregrine Fund, 1992). Daily linear movements of up to 55 km show the highly mobile behavior of young aplomados (Perez *et al.* 1996). It is unknown whether the dispersal patterns of reintroduced aplomados are indicative of natural dispersal.

Breeding Chronology

Aplomado falcons appear to be resident across most of their northern range where populations currently exist in Mexico (Hector 1981; Montoya, pers. obs.). Ligon (1961) noted that aplomados tend to occur in pairs. Primary nesting occurs from March to June in northern Chihuahua, with aerial courtship displays being observed as early as late January and early February (Montoya, pers. obs.). In the northwest portion of their range, aplomado falcons typically use stick nests constructed by other large bird species such as Swainson's hawks (*Buteo swainsoni*), Chihuahuan ravens (*Corvus cryptoleucus*), and possibly white-tailed kites (*Elanus leucurus*). Nests are usually situated in forks of yuccas (Figure 1-d), or in the tops of mesquite trees. In South Texas, an abandoned raven nest atop a 20-meter electrical tower was used by a pair of aplomados in 1995 (Peregrine Fund, unpubl. rpt.). Both sexes participate in an approximate 32-day incubation (Hector 1981), with young fledging approximately 35 days after hatching. Fledglings may remain in the vicinity of the nest for at least a month after fledging (Hector 1981; Perez, pers. obs.).



(a) suitable yucca/grassland habitat,
Chihuahua, Mexico.



(b) suitable yucca/grassland
habitat, Chihuahua, Mexico.



(c) suitable mesquite/grassland habitat,
Chihuahua, Mexico.



(d) potential yucca/grassland
habitat, Doña Ana County, New
Mexico.

Figure 2. Photographs showing suitable (occupied) yucca/grassland habitat (a) and (b) and mesquite/grassland habitat (c), Chihuahua, Mexico, and potential (unoccupied) yucca/grassland habitat, Doña Ana County, New Mexico.

Diet and Prey Base

Research by Hector (1981), Jiménez (1993), and Montoya *et al.* (1997) show a wide array of birds, insects, mammals, and reptiles composing the aplomado diet. Ligon (1961) similarly reported from the New Mexico "open yucca desertland" that the food of the aplomado consists almost wholly of small reptiles, lizards, mice, other rodents, grasshoppers, and various other kinds of insects. Ligon (1961) also found aplomados feeding in the summer on bats in the Jornada del Muerto grassland, near Engle, New Mexico. Curiously, Ligon (1961) noted that small birds rarely comprised their diet, except in winter when other food is lacking.

In eastern Mexico, birds comprised 94% of individual prey items in remains examined and 35% of prey items seen captured, while insects comprised approximately 65% of prey items seen captured (Hector 1985). Additionally, Hector (1981) determined that 97% of the prey biomass consisted of birds in eastern Mexico. Montoya *et al.* (1997) found a similar preference for avian prey items with meadowlarks (*Sturnella neglecta* and *S. magna*), common nighthawks (*Chordeiles minor*) and northern mockingbirds (*Mimus polyglottos*) among the most frequently taken birds in northern Chihuahua.

SURVEY METHODOLOGY

Surveyor Qualifications and Documentation

Individual observers are often the single greatest source of variability in any survey effort (Verner 1985); therefore, surveyors should be highly proficient in bird identification (particularly raptors/falcons), in correctly applying the survey methodology, and in exercising good common sense to avoid disturbing sensitive species or habitat during the course of the surveys. Nonetheless, since specific surveys for aplomado falcons may involve a disruption of normal behavioral activities such as feeding, roosting, or nesting, surveyors should possess a valid Federal permit pursuant to Section 10(a)(1)(B). Endangered species permit applications may be obtained by writing to: U.S. Fish and Wildlife Service; Ecological Services Division; *Attn: Permits*; P.O. Box 1306; Albuquerque, NM 87103-1306. If there are any questions about Federal permits, the appropriate Service Field Office or the Service's Regional Permits Office should be contacted for clarification prior to undertaking survey activities. It may also be necessary to contact the appropriate State agency regarding their permitting requirements. Aplomado observations should be reported immediately to the Ecological Services Field Office and the endangered species/non-game branch of the appropriate State game and fish department (Appendix A). All observations of aplomado falcons should be thoroughly described using the format provided in Appendix B. Photographs of any identified or suspected aplomado falcons should also be taken and submitted to the above agencies.

Survey Design Goals

There are two survey methodologies presented here. The first, and more desirable of the two survey types, involves system or basin-wide surveys encompassing an entire grassland area (i.e., Otero Mesa) that is similar to AGFD's grassland raptor surveys (Ward

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and Ingraldi 1994). These surveys would be conducted at regular intervals in a scientifically rigorous fashion. The goal of system-wide surveys is to provide reliable data for incorporation into project design or large-scale programs. This methodology can provide the quantifiable data to monitor trends in avian species abundance over time. Trend data are often necessary and missing elements in the proper evaluation of large scale projects/programs. System-wide surveys are basically intended to address large scale projects or programs occurring over a long period of time. Often, the effects of such projects/programs on the falcon or its habitat are more subtle than the more apparent impacts of a specific or localized project and thus, the analysis of those usually requires such baseline habitat or trend information.

The second survey method is a project-specific survey that focuses on the determination of aplomado falcon presence and habitat suitability in an identified area before an "action" takes place. This survey method is for projects that are brief, have specific impacts, and where trend data are not necessary. Procedures described in the system-wide and project-specific survey methodology sections are outlined in Table 1 (Page 13).

Basic Equipment

Three pieces of optical equipment are essential to conducting aplomado falcon surveys. These include: (1) a quality pair of binoculars of at least 8x with good light gathering capability, (2) a spotting scope of at least 20x to observe raptors detected at greater distances, and (3) a camera with a telephoto lens powerful enough to produce identifiable photos (i.e., at least a 200mm telephoto lens). Color slide film should be used so that photos can be easily magnified for more detailed inspection at a later date. The Service recommends this equipment be used to allow an observer to watch an individual bird from a sufficient distance that does not result in behavioral changes, particularly in nesting situations.

SYSTEM-WIDE SURVEYS

Survey Objectives

System-wide surveys provide a proactive approach to monitoring avian trends and assessing habitat characteristics important to aplomado falcons. This survey protocol generally follows that of established Breeding Bird Surveys (BBS) and, more specifically, procedures described by Ward and Ingraldi (1994) for Arizona. This method of monitoring is intended to help address aplomado falcon concerns in the planning process, thus minimizing major delays on a project/action resulting from a lack of important baseline/trend information. Over time, the system-wide collection of baseline habitat and trend data will serve as a guide for conservation and habitat management efforts.

Survey Area and Route Selection

Survey areas should consider historical or potential occurrence of aplomado falcons and/or the existence of potential habitat within the action area. In this document, potential habitat is any range or grassland containing prominent but scattered woody vegetation as described earlier in the *Habitat and Home Range* section. More specific habitat

Interim Survey Methodology - Northern Aplomado Falcon (4/02/99)

information may be obtained through literature such as the descriptions by Hector (1981, 1986b, 1987) and/or the desert grassland habitat descriptions found in Dick-Peddie *et al.* (1993). Vegetation maps can also help in the process of determining survey areas/routes within potential habitat. Once a specific survey area is determined, routes can be selected through the use of current maps showing existing roads. This methodology assumes existing roads are available for adequate coverage. However, we recommend coordinating with the appropriate Service Field Office beforehand for any site specific concerns that may arise regarding survey areas and/or routes. Survey routes should be a minimum of 16 km (10 mi) in length, with survey points every 0.8 km (0.5 mi). The maximum length of survey routes is flexible but limited by survey time frames defined in the next section. If a point is located where the view is obstructed, the surveyor should move a short distance (i.e. within a radius of 100m) until a clear view is obtained. If a system is particularly large or the roads disjunct, two or more routes may be designated within the survey area to provide adequate coverage. Adequate coverage would generally consist of the minimum number of routes needed to "view" all portions of the action area containing potential habitat. Survey routes and observation points within the action area should all be clearly indicated on U.S. Geological Survey (USGS) 7.5 minute topographic maps.

Survey Periods and Weather Constraints

Although aplomado falcons are believed to inhabit their range year-round (USFWS 1990), they are most conspicuous during their breeding season. Therefore, the majority (approximately 2/3) of system-wide surveys should be conducted between 1 February and 31 August, which represents the timing for the major portion of the courtship, nesting, and post-fledging season. For example, if six surveys are planned, four should be conducted between the above mentioned dates while the other two could be conducted during the winter months. Surveys within and outside the breeding season should be evenly spaced but not more frequent than a 2-4 week interval of each other, to minimize temporal biases. Minimum survey requirements are provided here; however, the greater the survey effort, the greater the probability of detecting rarer species.

Time and weather restrictions are necessary to ensure that surveys are conducted when detectability will not be biased due to wind, precipitation, or temperature (Verner 1985). Falcons most actively hunt in the mornings and evenings (Robbins 1981a; Montoya, pers. obs.). Wind and precipitation not only impair an observer's ability to detect wildlife (Verner 1985), but have been documented to cause behavioral changes in raptors to avoid inclement weather (Bildstein 1978, Wilkinson and Debbon 1980; Robbins 1981b). Therefore, to minimize time and weather period variability, surveys should be conducted in the mornings from sunrise to 4 hours after sunrise. Weather information should be recorded on the survey data form at the beginning of the survey; any changes in the weather during the course of the survey should also be noted. Surveys should only be conducted when there is no precipitation and sustained wind speeds are ≤ 16 kph (≤ 10 mph). Wind speeds can be roughly estimated against a standard such as the Beaufort Scale where wind speeds less than 16 kph can be characterized as calm to a gentle breeze which extends lightweight flags. Wind conditions that raise dust or loose paper would generally not be good survey conditions.

Survey Data Collection

Data collected for system-wide surveys should, at a minimum, include all raptors and ravens observed. Raptor-like species, such as the loggerhead shrike, should also be surveyed (Ward and Ingraldi 1994). In addition, the Service recommends the counting and identifying of all avian species at these survey points, similar to the BBS, since this can give a valuable index of population trends for avian prey availability with regard to aplomado falcons. For documentation of the full complement of avian species within the survey area, all auditory and visual detections should be recorded similar to the BBS protocol. This requires a knowledge of species' calls and songs as well as visual identification proficiency. We recommend including general vegetational notes and habitat descriptions of the action area with some emphasis on the relative grass cover height/types and the spacing of prominent woody vegetation/types. Hector (1986b) describes the relative importance of vegetative structure and patterns of aplomado habitat for reference.

During the aplomado falcon survey, a single "qualified" observer will stop at each observation point, exit the vehicle, and spend a minimum of 10 minutes listening and scanning the sky and all potential perch sites in a 360° area for the desired species. Binoculars and spotting scopes should be used to positively identify individual birds at a distance. A second person may record, but all observation data should be collected by one observer. Once the desired data are recorded, move directly to the next observation point to minimize recounting individuals. Individuals seen from one point should not be recounted at another.

Nest site availability appears to be a limiting factor for the aplomado, since they do not construct their own nests but utilize the abandoned nests of other raptors and corvids. Therefore, the documentation of stick nests will assist in the assessment of habitat suitability. All raptor and raven nest sites (large stick nests) located in the course of the survey should be tallied and their location marked on USGS 7.5 minute topographic maps. Data collected for each nest site should include nesting activity and species identification (if active). View all suspected aplomado nests from a distance of 75-100 meters with binoculars or a spotting scope to avoid causing any nest disturbance and possible abandonment. Surveyors should be aware that, with the exception of rock doves, house sparrows, and European starlings; all birds, nests, and eggs are protected under the provisions of the Migratory Bird Treaty Act.

PROJECT-SPECIFIC SURVEYS

Survey Objectives

Project-specific surveys are designed to determine the presence of aplomado falcons occurring in potential habitat within an action area. Depending on the project, the action area may also include sites indirectly or cumulatively impacted by the project and related activities. Efforts will be directed at intensively surveying all habitat within the action area having the potential of supporting aplomado falcons. Habitat of primary interest includes grasslands with a scattered woody component such as yucca and/or mesquite. However,

potential habitat may vary somewhat across the region as to the specific plant species composition. Habitats marginal in suitability (i.e. habitats that are dominated by woody vegetation rather than grass) will have lower priority for survey efforts. Since this survey type is to detect the presence of aplomado falcons for localized actions, rather than including monitoring trends or repeatable data collection, project-specific surveys are designed to be more flexible but intensive.

Survey Area and Route Selection

Survey areas should consider historical or potential occurrence of aplomado falcons and/or the existence of potential habitat within the action area. Potential habitat is any range or grassland containing prominent but scattered woody vegetation as described earlier. More specific habitat information may be obtained through literature such as the descriptions by Hector (1981, 1986b, 1987) and/or the desert grassland habitat descriptions found in Dick-Peddie *et al.* (1993). As with the system-wide method, survey areas and routes should be coordinated with the respective Service Field Office beforehand to address any specific concerns that may arise. Vegetation maps can also help in the process of determining survey areas. Survey routes should be delineated in a manner that provides a complete look of all potential habitat within the action/impact area. Routes will vary in number and length, depending on size of the project area and amount of potential habitat to be surveyed. Observation points for road surveys should be located every 0.5 to 1.2 km (0.3 to 0.75 mi), depending on visibility and habitat priority. If a given observation point has an obstructed view of the surroundings, the surveyor should move a short distance (i.e. within a radius of 100m) in order to alleviate the constrained view. If the potential habitat and/or project area is large, multiple routes will need to be designated within the area for adequate coverage. The project action area, habitat types, survey routes, and observation points should all be clearly indicated on USGS 7.5 minute maps.

Fuller and Mosher (1987) state that foot surveys produce lower detection rates but can give a thorough survey of small areas. Pedestrian surveys are recommended for small patches of habitat, particularly when vehicle access is limited, and are to be considered a continuous survey rather than a point survey. The maximum length of pedestrian survey routes is determined by the project area but limited by survey time frames defined in the next section.

Survey Periods and Weather Constraints

Survey periods are designed to maximize the likelihood of detecting aplomado falcons based on known behavior patterns, activity periods, and coincident with the proposed project/activity. Although aplomados may inhabit their range year-round, they will be most conspicuous from 1 February to 31 August, which represents the time period for courtship, nesting, and the post-fledging season (Hector 1981; USFWS 1990; Montoya *et al.* 1997). Therefore, to maximize the likelihood of detecting aplomado falcons, surveys are best conducted during this time period. Surveys should normally be conducted prior to initiation of each proposed project activity, or prior to each phase of an action that may affect the aplomado falcon or its habitat. Additionally, sufficient lead time is needed for adequate survey coverage and for Service coordination (i.e., to review the survey results and respond) before the anticipated start of the proposed action. Entire surveys of

Interim Survey Methodology - Northern Aplomado Falcon (4/02/99)

potential habitat within a given project area (and not specific routes) for aplomado falcons should be conducted at least 3 times within a 3-4 week period and conclude at least 30 days prior to the anticipated start date of the project. To minimize temporal biases, surveys should not be repeated during the same day but spread out as much as possible. For example, surveys should be spaced by a minimum of 1 week. For specific projects/actions in which the implementation of the above survey interval is constrained, the appropriate Service Field Office should be contacted for specific recommendations. Keep in mind that survey efforts need be timed as closely as possible to the start of the project/action. This survey series is intended to maximize the likelihood of detection, particularly outside the nesting season.

Weather and time constraints are necessary to ensure that surveys are conducted when detectability is not limited by wind, precipitation, or temperature. Therefore, surveys in potential habitat should be conducted in the mornings from sunrise to 4 hours after sunrise. Weather information should be recorded on the survey data form at the beginning of the survey and any changes in the weather should be noted during the course of the survey. Supplemental surveys may be conducted in marginal habitat in the evenings from 4 hours before sunset to sunset; however, these may not replace morning surveys in potential habitat. Surveys should only be conducted when there is no precipitation and sustained wind speeds are ≤ 16 kph (≤ 10 mph) determined against a standard such as the Beaufort Scale.

Survey Data Collection

For project-specific surveys, all raptors will be recorded. At each point, the biologist will get out of the vehicle, and scan 360° for at least 10 minutes for flying or perched raptors. Provided that the permitted biologist is present, more than one observer may be used, since coverage and detection are the primary objectives.

Documentation of nest availability or structures for aplomado falcons will help assess habitat suitability and impact avoidance. Therefore, all raptor and raven nest sites (stick nests) located in the course of the survey should be tallied. View all active nests, particularly suspected aplomado nests, from a distance of 75-100 meters with binoculars or a spotting scope to avoid causing any nest disturbance and possible abandonment. If the adults appear to become agitated at your presence, retreat from the nest area. All raptors and ravens are protected under the provisions of the Migratory Bird Treaty Act.

See Table 1 for a summary of both survey procedures.

Table 1. Summary of Survey Methodologies

Survey Constraints	System-Wide Survey	Project-Specific Survey
Observers	One observer	One or more observers
Survey Period	All year, 2/3 of surveys during 1 February - 31 August.	All year; Timed to coincide with proposed activity.
Survey Times	Sunrise to 4 hours after.	Sunrise to 4 hours after, supplemental from 4 hours before sunset to sunset.
Survey Frequency	Once every 2-4 weeks flexible, but suggest a minimum of 4 surveys if between 1 Feb- 31 Aug.	Minimum of 3 survey visits over 3-4 weeks (spaced at 1 per week) in potential habitat/action area concluding within 30 days prior to project start date.
Precipitation	None	None
Survey Mode	Vehicle	Vehicle or walking
Wind Speed (Sustained)	≤ 16 kph (≤ 10 mph)	≤ 16 kph (≤ 10 mph)
Survey Route	Minimum length of 16 km (10 mi). May be longer. Coordinate with Service on survey area/routes.	Variable, to effectively cover action area. Coordinate with Service on survey area/routes.
Observation Points	Every 0.8 km (0.5 mi)	Variable, every 0.5 to 1.2 km (0.3 to 0.75 mi) if by vehicle, continuous if by walking.
Observation Time	10 minutes per point.	Variable, minimum of 10 minutes per point if by vehicle.
Species Recorded	All raptors, ravens, shrikes. (all avian species recommended for trend) Vegetation/habitat notes recommended.	All raptors and/or ravens.
Nests Recorded	Record location, species, and activity for all large nests if possible.	Tally all large stick nests.
Permit	Required.	Required.

AGENCY RESPONSIBILITIES

Report Preparation

Upon completion of each project-specific survey for the aplomado falcon, the action agency/surveyor will prepare a report on the results of the survey and associated information. If an aplomado falcon is located during surveys, the action agency/surveyor should contact the appropriate Service Field Office project biologist within 3 working days. Survey results submitted to the Service should include: (1) maps of survey route(s), (2) survey data forms, (3) a narrative of the results and any observations of interest (i.e., other species of interest, notes on habitat suitability, and nest availability), and (4) photos documenting aplomado falcons and/or habitat. In order to ensure a timely response to the agency/applicants, survey results are requested in writing as soon as possible (particularly for project-specific actions). System-wide survey reports/activities may be submitted on an annual basis or unless otherwise decided during agency coordination with the Service.

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A-1 Appendix A. List of contacts to report aplomado sightings (contact coordinating Service Field Office).

ARIZONA

Field Supervisor
U.S. Fish and Wildlife Service
Arizona Ecological Services Office
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4957
(602) 640-2720
FAX (602) -2730

Randy Wilson
Arizona Game and Fish Department
Nongame and Endangered Wildlife
2221 West Greenway Road
Phoenix, Arizona 85023-4312
(602) 789-3509
FAX (602) 789-3926

NEW MEXICO

(lead Service aplomado recovery station)
Field Supervisor
U.S. Fish and Wildlife Service
New Mexico Ecological Services Office
2105 Osuna Road NE
Albuquerque, New Mexico 87113
(505) 346-2525
FAX (505) 346-2542

Sandy Williams
New Mexico Department of
Game and Fish;
Endangered Species Division
P.O. Box 25112
Santa Fe, New Mexico 87504
(505) 476-8000
FAX (505) 476-8128

TEXAS

(State Agency)

Texas Parks and Wildlife Department
3000 IH-35 South, Fountain Plaza;
Suite 100; Austin, Texas 78704
(512) 912-4771

(West Texas)

Field Supervisor
U.S. Fish and Wildlife Service
Ecological Services Office
10711 Burnet Road, Suit 200
Hartland Bank Building
Austin, Texas 78758
(512) 490-0063
FAX (512) 490-0974

(South Texas)

Field Supervisor
U.S. Fish and Wildlife Service
Ecological Services Office
c/o TAMU-CC Campus Box 338
6300 Ocean Drive
Corpus Christi, TX 78412
(361) 994-9005
FAX (361) 994-8262

A-2 Appendix B. Rare bird/aplomado falcon observation form.

RARE BIRD/APLOMADO FALCON OBSERVATION FORM

Observer(s): _____

Sighting Date: _____._____._____ (ex. 01.Mar.95)

Phone Number(s) of Primary Contact on this Observation(____) (____)

General Area Description: _____

Site Location: UTM Coordinates _____ E _____ N Elevation: _____

Lat/Long Coordinates T _____ R _____ Sec(s) _____

Quadrangle (Topographic) Map Name _____

Please include a map of location, preferably from a USGS 7.5 minute quad, on the back.

Sighting Time: First Observed _____ End Observation _____ (24hr time)

Weather: Wind Speed (max) _____ Temperature (max) _____ °F °C Cloudcover % _____

DESCRIPTION

Observation Distance _____ Lighting _____ Photographs Y N

Status (i.e. single, pair, adult, subadult, or juvenile) _____

Back and Upperwings _____

Face, Head, and Nape _____

Breast, Belly, and Underwings _____

Tail, Rump, and Undertail Coverts _____

Flesh Parts (legs and Cere) _____

Behavior _____

Notes: _____

A-3 Appendix C. Field data forms.

APLOMADO FALCON SURVEY DATA FORM

Survey Route Description: _____

County: _____ USGS Quad Name(s): _____

Survey Location: UTM Coordinates _____ E _____ N Elevation: _____

Lat/Long Coordinates T _____ R _____ Sec(s) _____

Survey Date: _____ Survey Time: Start _____ End _____

Day Month Year

Weather: Wind Speed (max) _____ Temperature (max) _____ Cloudcover % _____

Primary Observer: _____ Other Observer(s): _____

Survey mode: Vehicle _____ Walk _____

Individual Species Observed by Station:

TUVU BLVU♦ GOEA BAEA MIKI BSKI NOHA SSHA COHA NOGO
BWHA RTHA SWHA RLHA FEHA WTHA♦ HAHA ZTHA OSPR **APFA**
CRCA♦ AMKE MERL PRFA PEFA CORA CHRA AMCR LOSH

* = Large stick nest present. ♦ = unlikely, needs verification

1		11		21	
2		12		22	
3		13		23	
4		14		24	
5		15		25	
6		16		26	
7		17		27	
8		18		28	
9		19		29	
10		20		30	

Notes _____

Interim Survey Methodology - Northern Aplomado Falcon (4/02/99)

Appendix C (continued). Key to the abbreviated avian species.

TUVU	BLVU	GOEA	BAEA	MIKI	BSKI	NOHA	SSHA	COHA	NOGO
BWHA	RTHA	SWHA	RLHA	FEHA	WTHA	HAHA	ZTHA	OSPR	APFA
CRCA	AMKE	MERL	PRFA	PEFA	CORA	CHRA	AMCR	LOSH	

TUVU - Turkey Vulture

BLVU - Black Vulture

GOEA - Golden Eagle

BAEA - Bald Eagle

MIKI - Mississippi Kite

BSKI - Black-shouldered Kite (or white-tailed kite)

NOHA - Northern Harrier

SSHA - Sharp shinned Hawk

COHA - Cooper's Hawk

NOGO - Northern Goshawk

BWHA - Broad-winged Hawk

RTHA - Red tailed Hawk

SWHA - Swainson's Hawk

RLHA - Rough legged Hawk

FEHA- Ferruginous Hawk

WTHA - White tailed Hawk

HAHA - Harris' Hawk

ZTHA - Zone tailed Hawk

OSPR - Osprey

APFA - Aplomado Falcon

CRCA - Crested Caracara

AMKE - American Kestrel

MERL - Merlin

PRFA - Prairie Falcon

PEFA - Peregrine Falcon

CORA - Common Raven

CHRA - Chihuahuan Raven

AMCR - American Crow

LOSH - Loggerhead Shrike

XXXX - Other (identify)



United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna NE
Albuquerque, New Mexico 87113
Phone: (505) 346-2525 Fax: (505) 346-2542

May 14, 2002

Cons.# 2-22-01-I-696b

Ms. Julie A. Hall
Environmental Resources Branch—U.S. Army Corps of Engineers
4101 Jefferson Plaza NE
Albuquerque, New Mexico 87109-3435

Dear Ms. Hall:

This letter provides the results of an April 30, 2002, field visit conducted by this office to land parcels involved in the Federal Law Enforcement Training Center (FLETC) Land Transfer, near the City of Artesia, Eddy County, New Mexico. The proposed action consists of the transfer of 1,280 acres of public and State lands to FLETC for expansion of their training operations northwest of Artesia.

As per our previous correspondence dated March 5, 2002, the purpose of the visit was to determine potential effects on the endangered northern aplomado falcon (*Falco femoralis septentrionalis*) and other federally-listed or proposed species. In addition, your project was evaluated with respect to other important fish and wildlife resources. With respect to federally-listed or proposed species, the proposed action is not likely to adversely affect these species. With respect to other important fish and wildlife resources, please refer to our March 5, 2002, letter. A cleanup program or best management practices should be developed to address the potential for lead contamination of wildlife.

If you have any questions or require further assistance, please contact Chris Perez of my staff at 505-346-2525, ext. 145. Please reference consultation number 2-22-01-I-696b.

Sincerely,

Joy E. Nicholopoulos
Field Supervisor

Ms. Julie A. Hall

2

cc:

Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico

Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry

Division, Santa Fe, New Mexico

John Sherman, Field Biologist, U.S. Bureau of Land Management, Carlsbad, New Mexico

Susan Goodan, Science Applications International Corporation, Albuquerque, New Mexico

Gloria Vaught, Environmental Protection Specialist, Federal Law Enforcement Training Center,
Artesia, New Mexico



Reply to
Attention of

DEPARTMENT OF THE ARMY
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS
4101 JEFFERSON PLAZA, NE
ALBUQUERQUE, NEW MEXICO 87109-3435
FAX (505) 342-3199

April 24, 2002

Engineering and Construction Division
Environmental Resources Branch

Mr. Elmo Baca
State Historic Preservation Officer
New Mexico State Historic Preservation Bureau
228 East Palace Avenue, Room 320
Santa Fe, New Mexico 87501

Dear Mr. Baca:

In accordance with 36 CFR 800, the U.S. Army Corps of Engineers (Corps), Albuquerque District, is providing for your review and comment a copy of the draft archaeological resources survey entitled *An Archeological Survey of the Federal Law Enforcement Training Center, Artesia, New Mexico*, by Janette Elyea of the Office of Contract Archeology, University of New Mexico. The survey was completed in conjunction with a proposed land exchange between the Department of the Treasury's Federal Law Enforcement Training Center (FLETC), the Bureau of Land Management, and the State of New Mexico. The Corps is acting on behalf of FLETC for the preparation of the Environmental Assessment and the archaeological survey report. An inventory survey of 2,960 acres was conducted in the general vicinity of Artesia, New Mexico.

If you have any questions or require additional information, please contact Dr. John D. Schelberg at (505) 342-3359. Thank you for your attention to this matter.

Sincerely,

Julie A. Hall, Acting Chief,
Environmental Resources Branch

Enclosure

F: USER/JOHN/ ECRAC/JOHN/ FLETC.DOC

Copy Furnished: (w/enclosure)

Ms. Gloria Vaught
Department of the Treasury
Federal Law Enforcement Training Center
1300 W. Richey Ave.
Artesia, NM 88210-1503

Ms. Tiffany Sullivan
Bureau of Land Management
Carlsbad Resource Office
620 E. Green Street
Carlsbad, NM 88220

Mr. Jens W. Deichmann
Assistant Commissioner
New Mexico State Land Office
P.O. Box 1148
Santa Fe, NM 87504-1148

Appendix B
Biological Survey Information

**Table B-1. UTM's for Transects and Biological Resources—October 1-5, 2001
Field Trip, FLETC Project Area and the BLM Selected Land Area**

<i>UTMs</i>		<i>Observation</i>
<i>South</i>	<i>East</i>	
<i>October 1, 2001</i>		
13 S 0548071	3638816	North end Transect 1, Section 33
0548139	3637204	South end Transect 1, Section 33
0548120	3637720	Burrowing owl
0548124	3637582	Potential burrowing owl burrow
0548146	3637345	Burrowing owl
0547991	3637198	Stick Nest #1
0547759	3637204	South end Transect 2, Section 33
0547814	3637971	North end Transect 2, Section 33
0547759	3637204	Loggerhead shrike
0547897	3637596	Stick Nest #2
0548011	3637531	Stick Nest #3
0547691	3637647	Swale on west side of study area
0548498	3637333	Swale on east side
0547740	3637801	Ball cactus (<i>Coryphantha vivipara</i>)
0548358	3637356	Stick Nest #4
0548490	3637215	South end Transect 3, Section 33
0548449	3638833	North end Transect 3, Section 33
0548448	3638296	Stick Nest #5
0548490	3627215	Loggerhead shrike
<i>October 2, 2001</i>		
0540685	3637130	North end Transect 1, Section 2
0540825	3635583	South end Transect 1, Section 2
0541114	3637169	North end Transect 2, Section 2
0541159	3635585	South end Transect 2, Section 2
0541515	3635607	North end Transect 3, Section 2
0541638	3637189	South end Transect 3, Section 2
0541124	3636779	Loggerhead shrike
0541090	3636378	Stick Nest #6
0541022	3636376	Stick Nest #7
0541093	3636050	Crossed old road. Marked as a drainage on USGS map.

<i>UTMs</i>		<i>Observation</i>
<i>South</i>	<i>East</i>	
0541144	3635151	Loggerhead shrike
0541430	3635556	Loggerhead shrike
0541955	3635668	Possible old prairie dog town
0541927	3635818	Loggerhead shrike
0542151	3636155	Dry stock tank
0541949	3636484	Stick Nest #8
0542024	3637050	Stick Nest #9
0541996	3637152	Stick Nest #10
0541587	3637055	Stick Nest #11
0541523	3637134	Stick Nest #12
0540703	3636589	Active burrow site
0540741	3636531	Potential cactus wren nest
0541771	3636134	Loggerhead shrike
<i>October 3, 2001</i>		
0548490	3636835	East end Transect 1, Section 4
0547797	3637002	West end Transect 1, Section 4
0548504	3636438	East end Transect 2, Section 4
0547697	3636460	West end Transect 2, Section 4
0547841	3636465	Juvenile horsecripler cactus, Section 4
0549025	3637265	Series of badger-sized holes. One potential burrowing owl burrow.
0548875	3637213	South end Transect 1, Section 34
0548811	3638827	East end Transect 1, Section 34
0549255	3637216	South end of Transect 2, Section 34
0549346	3638026	Dead standing cottonwood tree. Stick Nest #13.
0549223	3638819	North end of Transect 2, Section 34
0549025	3637265	Potential burrowing owl burrow
0549617	3638819	South end Transect 3, Section 34
0549251	3638334	Earthen tank
0549521	3638257	Barried gas line
0549251	3638334	East end Transect 3, Section 34
0549255	3637216	South end Transect 4, Section 34
0549806	3638288	Stick Nest #14

<i>UTMs</i>		<i>Observation</i>
<i>South</i>	<i>East</i>	
0549748	3638319	Potential burrowing owl burrow
0549772	3638325	Potential burrowing owl burrow
0549700	3636904	East end Transect 1, Section 3
0548499	3636926	West end Transect 1, Section 3
0549710	3636507	East end Transect 2, Section 3
0549710	3636507	Small swale enters Section 3 from east
0549687	3636397	Swale leaves Section 3 at south boundary
0549423	3636595	Potential burrowing owl burrow
0549426	3636607	Potential burrowing owl burrow
0549457	3636592	Potential burrowing owl burrow
0549469	3636701	Potential burrowing owl burrow
0548504	3636657	West end Transect 2, Section 3
0548287	3636910	Tower 1
0548122	3636907	Tower 2
0547974	3637009	Tower 3
0547855	3636778	Tower 4
0547868	3636556	Tower 5
0548490	3636575	Tower 6
0548913	3638043	Stick Nest #15
0549267	3638362	Stick Nest #16
0548516	3637052	Stick Nest #17
<i>October 4, 2001</i>		
0549684	3640430	North end of Transect 2, Section 27
0550071	3639584	Stick Nest #18
0550071	3639584	Stick Nest #19
0549514	3640450	Stick Nest #20
0549514	3640450	Stick Nest #21
0549512	3640453	Stick Nest #22
0549514	3640450	One loggerhead shrike
0549488	3638826	Natural basin
0549488	3639795	Stick Nest #23
0549621	3638826	South end Transect 2, Section 27
0548862	3638824	South end Transect 4, Section 27

<i>UTMs</i>		<i>Observation</i>
<i>South</i>	<i>East</i>	
0548786	3639086	Open badger-size hole showing possible burrowing owl use
0548576	3639345	Burrowing owl flushed from burrow
0548568	3639376	Active burrowing owl burrow 160 feet north of above owl
0548505	3639663	Potential active burrowing owl burrow
0548506	3640061	Burrowing owl flushed from burrow
0548449	3640302	Two cattle troughs near NW corner of Section 27
0548449	3640445	Sick Nest #24
0548658	3640448	North end Transect 4, Section 27
0550114	3637547	West end Transect 2, Section 35
0550603	3637653	Potential burrowing owl burrow
0551014	3637672	Potential burrowing owl burrow
0551615	3637535	Dry stock tank
0551717	3637932	East end Transect 2, Section 35
0550054	3640404	North end of Transect 1, Section 27
0550105	3638812	South end of Transect 1, Section 27
0549309	3638805	North end of Transect 3, Section 27
0549212	3638869	1 st burrowing owl observation
0549210	3638858	Active burrowing owl burrow
0549230	3638920	2 nd burrowing owl observation
0549243	3638916	Active burrowing owl burrow
0549243	3638918	Active burrowing owl burrow
0549194	3638909	3 rd burrowing owl observation
0549106	3638840	Active burrowing owl burrow
05409108	3638846	Active burrowing owl burrow
0549477	3640085	American Coot observation
Unknown	Unknown	South end of Transect 3, Section 27
0550043	3637377	West end of Transect 1, Section 35
0550874	3637467	Burrowing owl observation
0551724	3637505	East end of Transect 1, Section 35

<i>UTMs</i>		<i>Observation</i>
<i>South</i>	<i>East</i>	
<i>October 5, 2001</i>		
0548186	3638838	South end Transect 2, Section 28
0548064	3639323	Potential burrowing owl burrow
0548040	3639367	Potential burrowing owl burrow
0548158	3639339	Potential burrowing owl burrow
0548058	3640322	Potential burrowing owl burrow
0548239	3640209	Agave Pipeline Corp. pipeline structure
0548167	3640446	North end Transect 2, Section 28
0548507	3636345	West end of Section 3 transect
0549208	3636314	East end of Section 3 transect
0548524	3636534	Culvert at road near west end of Transect 3
0548581	3636464	Loggerhead shrike
054887	3636363	Clump of planted pine trees next to driver training area
0548377	3638840	South end of Transect 1, Section 28
0548453	3640380	Loggerhead shrike/western box turtle
0548330	3640442	North end of Transect 1, Section 28

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